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APPLICANT : NGK INSULATORS LTD;

INVENTOR : NEMOTO HIROSHI;

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TITLE : LITHIUM SECONDARY BATTERY

ABSTRACT : PROBLEM TO BE SOLVED: To remove or fix the moisture and HF in an electrolyte that exert a harmful influence on cycle characteristics of a battery so as to suppress decomposition of the electrolyte and obstruction of battery reaction by adding a water extraction agent to a nonaqueous electrolyte containing a lithium compound as an electrolyte salt.

SOLUTION: The water extraction agent is a material dissolving in a nonaqueous electrolyte, an organic phosphorus compound is listed, and the phosphorous compound having P=O bonding, especially a phosphate or a phosphine oxide is preferable. A hydrofluoric acid extraction agent is added to the nonaqueous electrolyte containing the lithium compound as the electrolyte, the hydrofluoric acid extraction agent is preferable to be an organic silicone compound or an organic antimony compound, especially the compound dissolving in the nonaqueous electrolyte. As the preferable organic silicone compound, silanes are listed. Simultaneous addition of the water extraction agent and the hydrofluoric acid extraction agent to the electrolyte is preferable.

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